



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/553,049

06/15/2006

Alain Straboni

BEAUMONT-28

5952

45722

7590

11/12/2008

Howard IP Law Group

P.O. Box 226

Fort Washington, PA 19034

EXAMINER

KEMMERLE III, RUSSELL J

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

11/12/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/553,049	<b>Applicant(s)</b> STRABONI, ALAIN	
	<b>Examiner</b> RUSSELL J. KEMMERLE III	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-31 and 34-39 is/are pending in the application.
- 4a) Of the above claim(s) 32 and 33 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 36-39 is/are allowed.
- 6) ☒ Claim(s) 10-13, 17, 18, 20, 22-31 and 37 is/are rejected.
- 7) ☒ Claim(s) 14-16, 18, 19 and 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Claim Rejections - 35 USC § 112***

Claim 26 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This rejection is maintained from the previous Office action.

Applicant's argument that support for such a limitation (the plate having a thickness of about 1-3 mm) is not found to be persuasive. Applicant argues that support is found based on the specification teaching that the thickness of the granule is 1-3 mm, and that the mold would be at least slightly greater than 1-3 mm, and therefore also in the range of 1-3 mm.

This is not found to be persuasive because at no point does the specification state what the relationship between the thickness of the granule and the thickness of the mold should be. Applicant's argument that the granule and mold should be approximately the same thickness does not appear to be supported in the specification, and Fig. 2A shows that after pressing the mold may be substantially thicker than the granule.

### ***Claim Objections***

Applicant is advised that should claim 37 be found allowable, claim 18 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claims 14-16, 19 and 21 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 34-36, 38 and 39, respectively. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### ***Claim Rejections - 35 USC § 102***

Claims 10, 12, 13, 18, 20, 24-26 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Stevens (US Patent 5,431,127).

Stevens discloses a method of making semiconductor particles (granules) by filling a mold with a semiconductor feedstock (preferably silicon) which is then heat treated to form the particles (abstract). The step of filling the powder into the mold is interpreted as a compacting step since the smoothing blade as shown in Fig 1 would result in some degree of downward force (i.e., compaction).

With respect to the limitation that the granules are intended to feed a semiconductor material manufacturing melt, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Referring to claim 12, since the holes of the mold are about 1 mm in size (Col 3 lines 65-66) the powder used to fill it would need to be of nanometric or micrometric size in order to fit into the holes.

Referring to claim 20, Stevens discloses that the particle be in the shape of a sphere, which would have a diameter/thickness ratio of about 1 (Col 3 lines 12-14).

Referring to claims 24-26, Stevens discloses that the mold have a plurality of openings each having a diameter of about 1 mm and a thickness of about 1 mm (Figs, Col 3 lines 65-67).

Referring to claim 31, Stevens discloses heating to about 1460°C (Col 5 lines 1-5).

### ***Claim Rejections - 35 USC § 103***

Claims 11, 22, 23 and 27-30 rejected under 35 U.S.C. 103(a) as being unpatentable over Stevens.

Stevens is relied upon as discussed above.

Referring to claim 11, 27 and 28, Stevens discloses a specific example of a particle having a size of 30 mils (about 0.76 mm), but does not specifically disclose

Art Unit: 1791

particles having a size greater than 1 mm (Col 3 lines 12-13). However, Stevens further discloses that the invention is not limited to those dimensions (Col 3 lines 15-16), and it would have been within the abilities of one of ordinary skill in the art to create a particle with a size greater than 1 mm by using a mold having larger holes based on the size of the desired final piece.

Referring to claims 22 and 23, Stevens does not appear to get into details of the exact shape of the particles produced, however it would be within the abilities of one of ordinary skill in the art to create particles having any desired shape by adjusting the shape of the holes in the mold.

Referring to claims 29 and 30, as discussed above, the holes in the mold of Stevens is about 1 mm, so the powder used to fill it would have to be smaller than that, however the exact size of the powder used is not disclosed. However, silicon powder of the sizes recited in claims 29 and 30 appear to be well known in the art, and it would have therefore been obvious to one of ordinary skill in the art to select such powders based on their availability and the fact that they would be appropriate to the process of Stevens.

### ***Allowable Subject Matter***

Claims 34-36, 38 and 39 are allowed for reasons already of record.

### ***Double Patenting***

Claims 10, 18 and 27 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 4 of

Art Unit: 1791

copending Application No. 10/552,548. This rejection is maintained from the previous Office actions. Claim 27 is added to the rejection as a substantial duplicate of claim 18.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Response to Arguments***

Applicant's arguments filed 16 July 2008 have been fully considered but they are not persuasive.

Applicant argues that Stevens fails to teach that the powder is sintered because sintering must occur below the melting point of the material without melting the powders.

While this may be true for solid state sintering (although that can involve some minor degree of melting) the generic term "sintering" used in claim 10 could also refer to other sintering mechanisms, such as liquid phase sintering. In liquid phase sintering some (but not all) of the body is caused to melt to assist in the densification of the formed body. As Applicant points out, Stevens teaches that during heating the bodies are allowed to at least partially melt to form particles (that is, not completely melt) (Col 7 lines 13-16). This appears to be a liquid phase sintering process, and thus fits under the broad term "sintering" used in claim 10.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RUSSELL J. KEMMERLE III whose telephone number is (571)272-6509. The examiner can normally be reached on Monday through Thursday, 7:00-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1791

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. J. K./

Examiner, Art Unit 1791

/ Carlos Lopez/

Primary Examiner, Art Unit 1791